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ABSTRACT OF THE INVENTION

The present invention employs a generative approach for configuring systems such that a system may be configured based on component or

5   resource requests, or input in the form of need. The present invention provides a constraint-based configuration system using a structural model hierarchy. The structural aspects of the model provide the ability to define a model element as being contained in, or by, another model element. In addition, the structural model provides the ability to identify logical datatype

10   and physical interconnections between elements and establish connections between elements. To configure a system, the present invention accepts input in the form of requests (e.g., component or resource) or needs, such as an expression of a need for a desktop computer system to be used in a CAD (i.e., computer-aided design) environment. Using this information, the

15   present invention configures a system by identifying the resource and component needs, constraints imposed on or by the resources or components identified, and the structural aspects of the system.